

NBD-200 Silicon Nitride

Properties		Units	Performance
Density		g/cm ³	3.16
Crystal Size	Average	μm	-
Water Absorption		%	0
Gas Permeability			0
Color			GRAY
Flexural Strength (MOR)	20 °C	MPa	900
Elastic Modulus	20 °C	GPa	320
Poisson's Ratio	20 °C		0.26
Compressive Strength	20 °C	MPa	2500
Hardness	Knoop 1000 g	kg/mm ²	1530
	Knoop 100 g	kg/mm ²	-
	Rockwell 45 N	R45N	-
	Vickers 0.5 kg	kg/mm ²	-
Tensile Strength	25 °C	MPa	-
Fracture Toughness	K _{IC}	MPa·m ^{1/2}	5.5
Thermal Conductivity	20 °C	W/m-K	29.0
Coefficient of Thermal Expansion	25-1000 °C	1 X 10 ⁻⁶ /°C	2.9
Specific Heat	100 °C	J/kg-K	-
Thermal Shock Resistance	Δ T	°C	-
Maximum Use Temperature		°C	1400
Dielectric Strength	6.35 mm	ac-kV/mm	-
Dielectric Constant	1 MHz, 25 °C		8
Dielectric Loss (tan δ)	1 MHz, 25 °C		-
Volume Resistivity	25 °C	Ω-cm	10 ¹⁴
	500 °C	Ω-cm	-
	1000 °C	Ω-cm	-

The chart is intended to illustrate typical properties. Property values vary with method of manufacture, size, and configuration of part. Data contained herein is not to be construed as absolute and does not constitute a representation or warranty for which CoorsTek assumes legal responsibility. All properties are measured according to international standards (ASTM, DIN, JIS, etc.) applicable to country of origin. Contact CoorsTek for more information.